



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

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MAR 8 2000



Ref: 8P-W-GW

Darrell Cruea
Commissioner
South Dakota Department of Agriculture
523 East Capital Avenue
Pierre, South Dakota 57501-3182

Re: State Management Plan Concurrence

Dear Commissioner Cruea:

I am happy to inform you that the South Dakota Generic Pesticides and Ground Water State Management Plan meets all of the Environmental Protection Agency's criteria for plan concurrence. Accordingly, this letter formally transmits our concurrence of the plan.

We have encouraged States to use generic Pesticide and Ground Water State Management Plans as the basis for their pesticide specific Pesticide Management Plans. I believe this document will help you develop your Pesticide Management Plan.

We recognize the time and effort that were put into developing this generic Pesticides and Ground Water State Management Plan and we appreciate your excellent work. We would like to particularly recognize Bruce Jacobson and Brad Bervan. Their efforts demonstrate that the new paradigm of partnerships can yield outstanding results. We look forward to continuing our collaboration as this plan is implemented.

Sincerely,

William P. Yellowtail
Regional Administrator

cc: Kevin Fridley, DoA
Brad Bervan, DoA
Bruce Jacobson, DoA
Bill Markley, DENR



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State of South Dakota

Generic

Pesticides and Ground Water

State Management Plan



JANUARY 2000

South Dakota Department of Agriculture
South Dakota Department of Environment and Natural Resources
Pesticides and Ground Water Advisory Group

STATE OF SOUTH DAKOTA

**GENERIC
PESTICIDES AND GROUND WATER
STATE MANAGEMENT PLAN**

January 2000

prepared by
Bruce Jacobson, Agricultural Program Specialist
South Dakota Department of Agriculture

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LIST OF ACRONYMS

| | |
|-------------|---|
| AES | Agricultural Experimental Station |
| AI | Active Ingredient |
| ARS | Agricultural Research Station |
| ARSD | Administrative Rules of South Dakota |
| BMP | Best Management Practice |
| CCA | Certified Crop Advisor |
| CEPA | Centennial Environmental Protection Act |
| CERCLA | Comprehensive Emergency Response, Compensation, and Recovery Act |
| CES | Cooperative Extension Service |
| CFR | Code of Federal Regulations |
| CWA | Clean Water Act |
| DENR | Department of Environment and Natural Resources |
| DOH | Department of Health |
| EDWDD | East Dakota Water Development District |
| EPA | Environmental Protection Agency |
| EPTC | S-Ethyl dipropylthiocarbamate |
| °F | Degrees Fahrenheit |
| FARM-A-SYST | Farmstead Assessment System |
| FFDCA | Federal Food, Drug, and Cosmetic Act |
| FIFRA | Federal Insecticide, Fungicide, Rodenticide Act |
| GFP | Game, Fish, and Parks |
| GIS | Geographic Information System |
| GSMP | Generic State Management Plan |
| GSP | Geological Survey Program |
| GUP | General Use Pesticide |
| GWQP | Ground Water Quality Program |
| HA | Health Advisory |
| ICM | Integrated Crop Management |
| in | Inches |
| IPM | Integrated Pest Management |
| IPMP | Integrated Pest Management Program |
| Lbs | Pounds |
| MCL | Maximum Contaminant Level |
| MCPA | (4-chloro-2-methylphenoxy) acetic acid |
| µg/L | microgram per Liter |
| Mg/L | Milligrams per liter |
| MOU | Memorandum Of Understanding |
| MSDE | Minimum Set Of Data Elements |
| NA | Not Analyzed or Not Applicable |
| NCFAP | National Center For Food And Agricultural Policy |
| NGPWRC | Northern Great Plains Water Resources Center |
| NPS | Nonpoint Source |
| NRCS | Natural Resources Conservation Service (USDA) |
| PAGWAG | Pesticides And Ground Water Advisory Group |
| PIAP | Pesticide Impact Assessment Program |
| PPA | Performance Partnership Agreement (State of South Dakota and U.S. Environmental Protection Agency Multi-Year Agreement) |
| ppb | parts per billion |

LIST OF ACRONYMS (continued)

| | |
|----------|---|
| ppm | parts per million |
| PSSMP | Pesticide Specific State Management Plan |
| PVC | Polyvinyl Chloride |
| PWS | Public Water System |
| RCRA | Resource Conservation And Recovery Act |
| RUP | Restricted Use Pesticide |
| SARA | Superfund Amendments And Reauthorization Act |
| SD | South Dakota |
| SDASS | South Dakota Agricultural Statistical Service |
| SDCL | South Dakota Codified Law |
| SDCLR | South Dakota Crop And Livestock Reporter |
| SDDA | South Dakota Department Of Agriculture |
| SDSU | South Dakota State University |
| SDWA | Safe Drinking Water Act |
| SMP | State Management Plan |
| TDS | Total Dissolved Solids |
| USC | United States Code |
| USDA | United States Department Of Agriculture |
| USFWS | United States Fish And Wildlife Service |
| USGS | United States Geological Survey |
| voc | volatile organic chemicals |
| WATSTORE | National Water Storage And Retrieval System |
| WRI | Water Resources Institute |

ACKNOWLEDGMENTS

The South Dakota Department of Agriculture; Division of Agricultural Services wishes thank the numerous individuals and agencies that assisted in the development of this State Management Plan. Particular appreciation is extended to the:

Pesticides and Ground Water Advisory Group for Development of the Generic Pesticides and Ground Water State Management Plan:

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| Tom Brandner | South Dakota Department of Environment and Natural Resources, Environmental Services |
| Dave Flakne | Novartis, State Government Relations |
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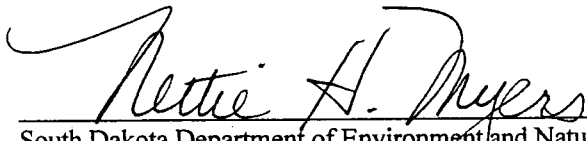
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| Frank Chianelli | Previously with Pesticides Section - EPA |

CONCURRENCE SIGNATURES

The following agency representatives have read the *South Dakota Generic State Management Plan for Pesticides and Ground Water* and concur with their agency's responsibilities, within statutory authority and budgetary limits, as stated in the plan.



South Dakota Department of Agriculture



South Dakota Department of Environment and Natural Resources



South Dakota State University

CONCURRENCE SIGNATURES (Continued)

The following agency representative has read the *South Dakota Generic State Management Plan for Pesticides and Ground Water* and concurs with their agency's responsibilities, within statutory authority and budgetary limits, as stated in the plan.

A handwritten signature in cursive script, appearing to read "Dean Fisher", is written above a horizontal line.

Natural Resources Conservation Service


CONCURRENCE SIGNATURES (Continued)

The following agency representative has read the *South Dakota Generic State Management Plan for Pesticides and Ground Water* and concurs with their agency's responsibilities, within statutory authority and budgetary limits, as stated in the plan.

Janet M. Carter 10/26/98
United States Geological Survey

CONCURRENCE SIGNATURES (Continued)

The following agency representatives have read the *South Dakota Generic State Management Plan for Pesticides and Ground Water* and concur with their agency's responsibilities, within statutory authority and budgetary limits, as stated in the plan.



South Dakota Department of Health

KEVIN L. FORSCH, DIRECTOR
DIVISION HEALTH SYSTEMS DEV. & REGULATION

STATE LIAISON

The purpose of a state liaison is to have a single contact responsible for the transmittal and receipt of official correspondence and information. The single contact for all formal communications concerning the State Management Plan process between the U.S. Environmental Protection Agency and the State of South Dakota is:

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INTRODUCTION

The late George S. Mickelson (Governor 1986-1992) once remarked, "Agriculture has always been the core of what South Dakota is all about." Agriculture continues to be the state's number one industry and the cornerstone of South Dakota's economy. Over the years, pesticide use has become a valuable tool that farmers and ranchers rely on to manage pests that invade fields or rangeland. Equally important is prevention of ground water quality degradation. It is the foundation of the South Dakota plan. South Dakota statute §34A-2-104 in part states:

"It is hereby declared to be the public policy of this state to conserve the ground water of the state and to protect, maintain and improve the quality thereof for present and future beneficial uses through the prevention of pollution, correction of groundwater pollution problems and close control of limited degradation perimeters permitted for necessary economic or social development."

Current water quality information shows that pesticides, when properly used, are not causing widespread ground water contamination in South Dakota. However, detections of pesticides in ground water on a national level (including detections in very limited aquifer areas of South Dakota), have led to a federal/state partnership in the development and implementation of State Management Plans (SMP) for Pesticides and Ground Water. In October of 1991, the U.S. Environmental Protection Agency (EPA) published its Pesticide and Ground Water Strategy. The document recognized that ground water is vitally important to the health of this country's citizens, the integrity of our ecosystems and the vigor of our economy. Since 1986, EPA has been documenting the problem of pesticides and other agricultural chemicals contaminating ground water and from that developed a framework to address the problem. The document outlines EPA's strategy for managing the use of pesticides, which pose a risk of contaminating the nation's ground water resources. This strategy will involve states and the federal government in a new partnership approach.

According to the strategy, when EPA determines that a pesticide presents a significant risk to human health and/or the environment, it may either cancel the pesticide or allow the state to develop and implement a Pesticide Specific State Management Plan (PSSMP). (In assessing the risks EPA took into account the economic, social, and environmental costs and benefits of pesticide use and published the data in a document entitled: Regulatory Impact Analysis of State Management Plans for Ground-Water Protection.) The PSSMP will describe how the state will manage the pesticide to protect the ground water. The EPA also encouraged states to develop a Generic State Management Plan (GSMP) (this document) outlining how the state will generally manage all pesticides to ensure ground water protection. This generic plan will focus on the agricultural use of SMP pesticides. Urban and other uses such as rights-of-way and forestry are included only when a SMP pesticide is registered for such use in South Dakota.

The EPA prepared and released a final guidance in December 1993 for preparation and review of SMPs. According to the guidance document, generic and pesticide specific SMPs include the following 12 components:

- 1) State's Philosophy and Goals Toward Protecting Ground Water;
- 2) Roles and Responsibilities of State Agencies;
- 3) Legal Authority;
- 4) Resources;
- 5) Basis for Assessment and Planning;
- 6) Monitoring;
- 7) Prevention Actions;
- 8) Response to Detections of Pesticides;
- 9) Enforcement Mechanisms;
- 10) Public Awareness and Participation;
- 11) Information Dissemination; and
- 12) Records and Reporting.

South Dakota's GSMP is organized in accordance with the EPA guidance documents. Components 5, 6, 7, and 8 of the SMP are considered extremely important if the plan is to achieve its goal of protecting, maintaining and improving ground water quality for present and future beneficial uses.

PURPOSE OF THE DOCUMENT

This document was developed in response to Environmental Protection Agency (EPA) requirements for developing Pesticides and Ground Water State Management Plans to protect ground water from pesticide contamination. This plan is a generic plan designed to lay the framework and set out a general process for a Pesticide Specific State Management Plan (PSSMP). The EPA will require states to develop PSSMPs for pesticides designated as ground water contamination threats. The generic plan will outline the process needed to develop the PSSMPs.

This Generic State Management Plan (GSMP) for South Dakota is intended to describe how programs and policies already in place will be used to address concerns related to pesticides and ground water quality. In addition it will describe how the South Dakota Department of Agriculture's authority to regulate pesticides may be used to augment these activities. The South Dakota GSMP provides the framework and basic concepts needed for the State to develop and implement a PSSMP.

COMPONENT ONE

STATE'S PHILOSOPHY AND GOALS TOWARD PROTECTING GROUND WATER

1.1 INTRODUCTION

South Dakota's ground water protection goal is to conserve ground water and to protect, maintain and improve ground water quality for present and future beneficial uses (refer to Box 1.1). The ground water protection goal was declared public policy by the 1989 Legislature when South Dakota Codified Law (SDCL) §34A-2-104 was adopted. This law meets the Environmental Protection Agency's (EPA) goal of "preventing adverse effects to human health and the environment and to protect the environmental integrity of the nation's ground water." Both EPA and South Dakota have a ground water protection goal encompassing the objectives of pollution prevention and remediation. Prevention is based on the relative vulnerability of the resource and its use and value. Remediation is based on the relative use and value of the ground water.

1.2 GROUND WATER PROTECTION GOAL

The South Dakota Ground Water Quality Standard classifies the beneficial use of ground water with a total dissolved solids (TDS) concentration of less than 10,000 milligrams per liter (mg/L) as drinking water. Ground water in South Dakota is protected for the beneficial use of drinking water, and the numerical standards adopted for South Dakota's ground water are generally the maximum contaminant levels (MCL) for drinking water. Chemicals that do not have a MCL or numerical ground water quality standard but could adversely impact public health or the environment are identified as "Potential Toxic Pollutants" and are to be non-detectable in ground water. When EPA adopts MCLs or acceptable health advisories for pesticides, those concentrations may be adopted as numerical standards by South Dakota's Pesticide Specific State Management Plans (PSSMP).

South Dakota Codified Law requires the Department of Environment and Natural Resources (DENR) to prioritize the pollution prevention and ground water protection efforts for the state. Prioritization is based on ground water quality standards, beneficial uses of water, the extent to which a ground water source supplies (or might feasibly supply) public water systems or wellhead protection areas, the degree of hazard to public health and welfare, the dependence of local citizens upon ground water supplies, and the vulnerability of ground water supplies to contamination. A majority of the aquifers in the state have been prioritized based on the above criteria. Aquifers receiving the highest priority are the sensitive aquifers that occur essentially at the land surface, have little to no overlying protective soils/sediments, and can be or are known to be hydraulically connected to surface water resources. The prioritization process is explained in more detail in Component 5 - Basis For Assessment and Planing, under Section 5.9 – Prioritization Of Aquifers In South Dakota, on page 5-8.

Box 1.1

Ground Water Protection Goal

Reference: SDCL §34A-2-104

"The Legislature finds that groundwater is a resource of immeasurable value to public health and welfare, critical for the provision of water supply needs for domestic, agricultural, industrial, mining, recreational and other beneficial uses of water, and that pollution of groundwater of this state from both point and nonpoint sources constitutes a menace to public health, welfare and the environment, and that there has been an increasing awareness on the part of the public, local governments and the state that groundwater must be protected, that once groundwater is polluted, it is extremely difficult and expensive to clean up, that both strong enforcement and public education are important and necessary components of the state strategy for minimizing and reducing potential pollution sources, and that effective preventive measures and swift response to releases of pollutants minimize ground water pollution. It is hereby declared to be the public policy of this state to conserve the groundwater of the state and to protect, maintain and improve the quality thereof for present and future beneficial uses through the prevention of pollution, correction of groundwater pollution problems and close control of limited degradation perimeters permitted for necessary economic or social development."

1.3 PESTICIDE USE GOAL

South Dakota's pesticide use goal is based on pollution prevention. Misuse, accidents, and normal use contributing to ground water pollution will be investigated, and a proper response plan will be chosen to ensure that pesticides do not impair the quality of South Dakota's environment (refer to Box 1.2).

1.4 STATE MANAGEMENT PLAN GOAL

South Dakota's Generic State Management Plan (GSMP) for Pesticides and Ground Water, emphasizes pollution prevention, realizing remediation is necessary in some cases such as point source releases. South Dakota's State Management Plan (SMP) goal is to manage the use of pesticides to prevent adverse effects on human health and the environment and to protect the ground water quality of South Dakota aquifers for present and future beneficial uses. Aquifers that are most sensitive are given highest priority for pollution prevention and ground water protection.

Preventing pesticide contamination of ground water, monitoring for the occurrence of pesticides in ground water, and responding to ground water pollution by pesticides are necessary state actions. This plan combines the efforts of federal, state, and local agencies to maintain and/or improve ground water quality in the state. Along with protecting ground water quality, the SMP must also protect the state's agricultural productivity, profitability and future pesticide use. Promoting land stewardship will be key to the success of the SMP. The state recognizes the necessity of pesticide use in modern agronomic production and also recognizes that a safe source of drinking water is a necessity for the citizens of the state. The state has taken these factors into consideration in preparing the GSMP and will also consider these factors in the development of Pesticide Specific State Management Plans.

Box 1.2
SDCL §38-21-15
Pollution Prohibited

No person may transport, store, use, dispose of or handle any pesticide, pesticide container, rinsate, or application equipment in such a manner as to endanger or cause injury to humans, vegetation, crops, livestock, wildlife, beneficial insects or to *pollute ground water or surface water.* (Emphasis added).